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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,577	03/12/2004	Chung-jeon Lee	P57047	6527

7590  
Robert E. Bushnell  
Suite 300  
1522 K Street, N.W.  
Washington, DC 20005

03/12/2007

EXAMINER
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NGUYEN, TAI V

ART UNIT	PAPER NUMBER
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3729

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/798,577

Applicant(s)

LEE ET AL.

Examiner

Tai Van Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 34-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-38 and 43-45 is/are allowed.
- 6) ☒ Claim(s) 39-42 and 47-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The applicants' amendment filed 12/8/2006 has been fully considered and made of record.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 39-42 and 47-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Baughman et al (US 5,387,314).

As applied to claim 39, Baughman et al disclose a method of manufacturing a bubble- jet type inkjet print head, comprising: forming a plurality of resistive heater (16, Fig. 1) elements comprised of patterned resistive material on a substrate (12), forming a patterned electrode layer (24a) on the substrate, the patterned electrode layer being electrically connected to the resistive heater elements, forming barrier walls (15) over the substrate, the barrier walls separating pairs of patterned resistive heater elements from each other; and attaching a nozzle plate (22) to a top of the plurality of barrier walls, the nozzle plate being perforated (32) by a plurality of nozzle holes, each nozzle hole being disposed above a portion of the substrate between a pair of patterned

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resistive heater elements, each nozzle hole (20) also being disposed between a pair of adjacent barrier walls (see sequence Fig. 1,2a-2b and Fig. 3).

As applied to claim 40, Baughman et al disclose forming an insulating layer as read barrier layer (17) over the substrate, over the resistive heater elements and over the patterned electrode layer, the plurality of barrier walls being formed on the insulating layer (see Fig. 2a).

As applied to claim 41, Baughman et al disclose the resistive heater elements being formed in pairs (16, Fig. 2a), Wherein barrier walls (15) serve to separate one pair of resistive heating elements from another adjacent pair of resistive heater elements. As applied to claim 42, Chan et al disclose the electrode layer as read lead (24a, Fig. 2a) is deposited so that each pair of resistive heaters as lead (24a) are electrically connected in series (see sequence Fig. 1,2a-2b and Fig. 3).

As applied to claims 47 and 48, Baughman et al disclose the barrier walls (17) being adapted to group together the plurality of resistive heater elements in pairs (16). As applied to claim 49, Baughman et al disclose wherein pairs of the plurality of resistive heater elements (16) are dedicated solely to corresponding ones of the plurality of nozzle holes (20).

As applied to claim 50, Baughman et al disclose there is a two to one correspondence between the resistive heater elements (16) and the nozzle holes (20).

As applied to claims 51 and 52, Baughman et al disclose each of the barrier walls separating one pair of the resistive heating elements from other adjoining pairs of the

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resistive heater elements while separating individual ones of the nozzle holes from adjoining others of the nozzle holes (Fig. 4D).

As applied to claim 53, Baughman et al disclose the barrier walls are rectangular in shape and having rectangular cross sections (see Fig. 4D)

***Allowable Subject Matter***

5, Claims 34-38 and 43-45 are allowed.

***Response to Arguments***

6. Applicant's arguments filed 12/8/2006 have been fully considered but they are not persuasive.

The applicants argue that the Baughman et al. does not teach: "each nozzle hole being disposed above a portion of the substrate between a pair of patterned resistive heater elements" (as recited in claim 39, lines 10-11).

The examiner traverses for at least the following reasons:

Baughman et al. Shows in Figure 2 a, providing an each nozzle hole (above middle 16 in Fig. 2) being disposed above a portion of the substrate (e.g. 12) between a pair (upper 16 and lower 16 in Fig. 2) of patterned resistive heater elements.

Therefore, the claims do not distinguish over the references to Baughman et al.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Van Nguyen whose telephone number is 571-272-4567. The examiner can normally be reached on M-F (7:30 A.M - 4:30 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN. March 7, 2007



A. DEXTER TUGBANG  
PRIMARY EXAMINER